

The Scope

"There Are None So Blind As Those Who Will Not See."

DECEMBER 1929

BOSTON, MASSACHUSETTS

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HYPEROPIA

By ETHAN A. FLANDERS '30

Note by Dr. Theodore J. Klein

The paper here presented is one of several good papers on Hypermetropia written by members of the Senior Class. There was no "best" paper so the several excellent papers were placed together and the paper of Mr. Flanders was drawn. This we believe was a fair method of selecting a paper for publication.

Hyperopia is that condition of refraction in which the posterior principle focus of the eye lies back of the retinal plane, so that neutral light waves, instead of focussing on the retina fall on the retina in diffusion circles of unfocussed waves. Other points noticed are the P. R. is beyond infinity, the P. P. is greater than it should be, plus lenses correct the error, the eye uses an excess of acc. for any distance equal to the error, the hyper. eye may be considered as an under-developed eye, the antro-posterior axis is shorter than in an emm. eye, hence the angle alpha is greater, emerging rays are divergent.

Hyper. may be divided into two main groups, namely congenital and acquired. A definition of congenital hyper. is that at birth the eye is under-developed and does not grow sufficiently. Acquired hyper. is due to removal of the lens, physiological diminution of the elasticity of the lens (Presbyopia), or an increase in the density of the vitreous.

Every case of hyper. may be as either low, medium or high. In low degrees the arrest in development is scarcely perceptible. Even the normal eye shows so many deviations in its length and degree of curvature of its surfaces that from mere observation it is impossible to distinguish a slightly hyper. eye from that of an emm. eye. Hyper. of medium degree is noticeable by the characteristic appearance of face and cranium. It might seem as if the smallness of the eye corresponded to the lack of the depth of the orbit. In the majority of cases we find corresponding to the less developed half of the head the eye whose refraction is weaker, oftenest hyper. or presenting a higher degree of hyper. This rule admits exceptions. In low and medium degrees the ciliary muscle, according to some, seems to be more developed than in emm. and especially in myopia. The field of vision is larger than in the normal eye due to the fact that the shape of the eye will permit rays of light

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THE STUDENT

By JACOB A. DYBBS '30

From a study of the progress of Optometry, we must conclude, that in a large sense, it depends on the student. Scientific Optometry represents a mass of knowledge, the principal facts of which can only be gained by prolonged study on the part of those whose minds have been well trained already by adequate preparatory preparation. The profession, as it is to-day is far from a perfected profession. A constant effort is being made to improve the educational standard and to supply better Optometrists to the community.

There are many desirable factors in the Student. He should have robust health, faith, enthusiasm, cheerfulness, courtesy, patience, and a knowledge of human nature and cleanliness. All of these attributes are desirable, some absolutely necessary, in order for him to reach his objective successfully. His early education should be like his diet, well balanced. To insure a clean well-round, physical, mental, and spiritual life, a student's early education should be seasoned with bits of philosophy. The same philosophy that helps in the moulding of fine character, whether learned and practiced in boyhood or later on in life has a tremendous tendency towards the building of good health, and should be embodied in the education and daily regime of the student. Every student with a spark of ambition has some objective. He will never reach his objective if his health fails.

The Student should, from the beginning of his pre-optometrical education, cultivate the power of observation of facts, both great and small no matter how trivial they may appear at the time. He should by all means be a good observer, otherwise he may fail to grasp some essential detail or to note some symptom that may be the key to the solution of the problem that is presented to him. Accurate observation, careful and painstaking record of facts observed, thoughtful and thorough analysis of the data accumulated, corrected reasoning and ability to draw proper deductions therefrom and then the faculty of initiative and the confidence to undertake the measures of relief indicated, are fundamental factors in the student's success.

CAN YOU IMAGINE —

Kelliher attending classes?

Agranov not studying and worrying about his ranks?

Flanders bursting out in words?

"Spike" coming to class on time?

Mazucco not laughing?

Mr. Blodgett making a mistake?

How Agranov would look as a myope?

"Spike" Levine without "Luckies"?

Miss McCabe as a librarian?

Rice without his Rose?

Dybbs without the pin-hole?

Please Pass This To Some Prospective Optometry Student

The Scope

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EDITORIAL

STUDENTS ALL

Study, in the minds of many, ends with the receipt of a diploma or certificate. In reality, the work done to obtain this diploma is only a basis for future study. Without this foundation it would be impossible to start and without further study there cannot be success and progress in any profession. And it is so in optometry.

As with other sciences and professions, new methods and theories constantly arise in optometry. New instruments and improved products are constantly being brought forward for the approval of the optometrist. To properly appreciate and understand these theories, to choose from these methods those which will improve his technique, the optometrist must, of a necessity, keep in touch with the latest developments in optometry.

Unfortunately, there are quite a few optometrists, who, after receiving their certificates, have proceeded to practice their profession on lines which, though up-to-date at one time, have become antiquated with the progress of the years. They have made no further attempts at study, have attended no lectures or conventions. And, as a rule, it is they who are failures in their profession. It is they who merely earn a mediocre living, receiving for their services only what they are worth. It would be not only to their own benefit but also to the benefit of their profession and the public-at-large if they had never undertaken the study of optometry.

All this but leads up to the fact that we must understand that this is a modern age. We are being judged by new standards. No longer can success, once attained, be continued without further advancement. Modern and better instruments, improvements in methods of examination, more accurate prescriptions—all are requisite to the success of the optometrist of today.

And this requires participation in conventions of optometrists, attendance at lectures at these conventions and to lectures elsewhere which are of interest to an optometrist, subscription to journals and magazines published in the interests of optometry and, last but not very necessary, the study of the subject as presented in new books and treatises. For, student or optometrist, we all must continue our studies—students always.

Doctor—"Your boy's eyes are not diseased. All he needs is a little soap and water."

Anxious mother—"Before or after meals, Doctor?"

Mulligan. "What is your opinion of civilization?"

D. "I think it's a good idea. Somebody ought to start it."

We Hear—

Philip G. Quinn, '29 is working with Hartshorn in Springfield.

Mass. State Board Examinations were held on Tuesday, November 19th. We trust that the several students with one or two exams. to take over will meet with success this time.

Blake Smith, '28 is doing well in Springfield. He is in charge of the optical department at Leavitt's.

Homer Brown, '29 is having great success in his newly equipped office at 17 Prospect St., Stamford, Conn.

After successfully passing the Washington Board. Edwin R. Ballinger, '29 may be found at 1340 Kennedy St., N. W., Washington, D. C.

M. S. O. is well represented at Washington, for here we also find Siegfried Pels, '29 whose present address is 122 C Street, S. E., Washington, D. C.

Diana Kalfayan, '28 has recovered from an illness which lasted several months. Having passed the Mass. Board she is now going to try her luck with New York. We wish her success.

We trust that Ogden Carr, '29 is doing well in his newly established office in Pittsfield, Me. Likewise Kenneth Green whom we hear has a fine establishment in Camden, Me.

We want to congratulate Philip M. Dean, '26 on his literary ability.

The alumni and faculty want to congratulate Thomas H. Eames, '25 on his recent marriage, and wish him the best of luck.

Morton M. Gordon, '27 is with the Armstrong Optical Co., Middletown, Conn.

James K. Hirokawa, '29 passed the Honolulu Board, but does not intend to practice there. We believe his thoughts are in Fresno, California.

Charles Hall, '29 is still spending his leisure hours playing for various orchestras.

Boston must hold some attraction for Burton Renihan, '29.

Wallace R. White, '28 has opened an office at 13 1/2 Church St., Burlington, Vt.

The Pie-Eyed Column

Masters to Forgues—"Quick! Where can I hide? Mulligan is after me!"

Forgues—"Try that old trial case. Nobody can ever find anything in that."

"Cornet players," says Doctor Klein, "are seldom affected by lung trouble? I feel confident, however, that there is some special punishment reserved for them elsewhere."

"Did you make that face at me?" roared Cahill to Masters.

"No," said Masters, "you just happened to walk in front of it."

A young woman entered a classroom while Mr. Blodgett was giving his bi-weekly depressor and asked for a bean. Mr. Blodgett rose with alacrity and hastened to supply her demands. He returned later with the news that she had wanted what she had wanted.

Preble to Mrs. Svendsen. "How long would I live without any brains?"

Mrs. S. "Time will tell."

S. Jones must think that we are hard up for material. Don't pat yourself on the back, Jonesy. It was only a matter of form.

Mr. Blodgett in Junior Optics class—"I won't dispute with you. I have been telling you for the last half hour that I would say nothing more on the subject."

"Not many people can do this," said Preble, as he turned his Ford into a tree. Which Rx did you have on that time, Preb?

"Well," said Dunbar's flivver, "I may be shiftless, but I'm not lazy."

Agranov claims that outside of school and studying he has found time to experiment on grafting Weed chains on banana skins.

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from a very large angle to fall upon the retina (for pupil of given size). The motor apparatus seems to work better than that of the normal eye since the field of fixation is generally of greater extent in the medium degrees of hyper. than in emm. This greater extent on the excursion of the eye is not attributable to a superior development of the extrinsic muscles but only to the greater mobility of the globe which is small and short and whose center of motion is farther back than in the emm. or myo. eye.

In high hyper. errors the characteristic hyper. appearances are most noticeable. The shape of the head is more pronounced and the cornea is visibly small. The smallness of the eye might seem a condition favorable to extended excursion but in reality the field of fixation of hyper. of this degree is restricted and shows a degree of mobility inferior to normal. The ciliary muscle is less vigorous than in low or medium degrees. The range of acc. is generally restricted so that this function is almost always insufficient for the correction of the imperfect retinal images produced by the insufficient dioptric apparatus. In the stronger degrees the eye is incapacitated for sustained vision. The principle reason is the inferiority of the nervous apparatus which also suffers in the incomplete formation of the eye.

The two main divisions of hyper. are manifest and latent. Manifest hyperis that amount of the error which is apparent and can be measured by convex lenses. Under manifest hyper. are found two sub-division, absolute and facultative. Absolute manifest hyper. is measured by the weakest plus lense which raises vision to normal. Facultative manifest is measured by the strongest plus lense with which vision remains one hundred percent. The second main division is latent hyper. Latent hyper. is that portion which is hidden by

acc. action and cannot be measured by convex lenses. The manifest plus the latent is the total hyper.

Relative hyper. is that condition when vision in one or both eyes becomes normal or is improved for a certain distance by means of converging to a nearer point. Simultaneous binocular vision is impossible, it being either monocular with monolateral squint, or alternating binocular with an alternating squint. Under this condition acc. is usually less than con.

Since the hyper. P. R. is beyond infinity he uses some acc. at infinity and the available amplitude for finite distances is thereby lessened and the range is restricted compared with emm. of the same degree. The full, or partially correcting, lens alters only the range, but not the amp. of acc., by bringing both the P. R. and the P. P. nearer to the eye.

The retinal image, since the distance between the nodal point and retina is shorter than normal, is smaller. Convex lenses increase the size of the image by moving the nodal point forward, this is more pronounced as the lens is moved farther out from the eye.

If acc. is suspended, parallel light will focus behind the retina. At the retina circles of confusion will be formed. These confusion circles will overlap each other and vision will be blurred. The greater the degree of hyper. the larger these circles are and hence, the more blurred vision will be. For clear vision the refracting power of the eye must be increased by acc. or plus lenses. The lower errors are overcome by acc. but as the errors increase plus lenses are needed.

Esophoric hyper. is by far the more common form and it is caused by over stimulation of the internal recti accompanying excessive acc. In order that the acc. and con. efforts be brought into a more harmonious relationship it is necessary to suppress acc. It is best to give as fully a correction as will

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be accepted. Exophoria with hyper. is the exception. In this condition con. is harder and a greater effort has to be used. It is best to under correct the manifest error as plus lenses tend to relax con. still more.

Symptoms of Hyper.

Strain on the ciliary muscle causes frontal headaches, the necessity of acc. in excess of con. causes eso, there may also be a convergent squint, the restraint of excessive con. by the external recti is manifested by neuralgic pains near the temples. Other symptoms such as fatigue, lids sticking together in the morning, burning and inflamed eyes and lids, trouble at near, the forming of wrinkles between the eyes, especially verticle wrinkles.

When the error of hyper. is great, glasses should be given to be worn at all times except at sports. But when dis. vision is good and asthenopic symptoms are manifested at near glasses may

be prescribed for near use only.

Only the Rims

When only a freshman in high school I was taken to the oculist to have my eyes tested. After the test had been made we entered another room and the doctor handed me a pair of glasses to try on. After putting them on I exclaimed enthusiastically, "Oh, I can see much better through these."

I shall never forgive that doctor for saying, "But my dear young person, you are merely trying on rims. These spectacles have no lenses in them."

Contributions in the form of literary efforts of alumni will be gladly received. Please have them in before the second week previous to publication.

We were very glad to receive a copy of the Kentucky Optometrist. It is an interesting paper containing educational articles.

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